

WAIKATO CENTRE FOR APPLIED STATISTICS by Ray Littler

On Wednesday, 4 February 1987 a formal agreement establishing the Waikato Centre for Applied Statistics was signed by the University Vice-Chancellor and MAF's Agricultural Research Division Regional Director. The Centre has been set up initially for a two year trial period with the participating institutions sharing the cost of the salary of the Director, Ray Littler. Membership includes 9 Ruakura biometricians and about 10 University staff with Mathematics Department statisticians supplemented by staff with statistical interests from Biological Sciences, Earth Science, Economics, Management Studies and Psychology.

The Centre embodies an agreement between the two institutions to cooperate to "foster the development and effective use of statistical methods in research". The tangible fruits of this cooperation should be seen in a number of projects of an educational, research or consultancy nature.

Graduate Course in Consultancy

We will offer a course in which senior students gain practical experience by "apprenticeship" to Ruakura biometricians. There will also be Ruakura contributions to other statistical courses to inject some of the flavour of statistical practice.

University Consulting Service

The Centre Director will coordinate statistical consulting in the University. The recognition that at least part of a position should be devoted to statistical collaboration in university research is a small breakthrough for us. Activities such as workshops on statistical packages and techniques will be offered to both University and Ruakura staff.

Professional Development for Ruakura Statisticians

We biometricians anticipate that involvement with student supervision, joint seminars and so on will help us keep abreast of theoretical developments. We also hope that the venture will make it easier to attract visitors to stretch our minds. We claim that access to Ruakura's rolling hectares of data and problems will prove an irresistible attractant.

Consultancy Business

The pursuit of consulting work has begun with manufacturing and processing industries, agricultural R & D and environmental monitoring emerging as probable target areas. We are excited about the chance to make a contribution to new application areas, a little taken aback by the urgency of commercial consultancy, and keen to control income-motivated work so that a reasonable proportion of our time remains concentrated on our primary responsibilities in agricultural research, statistical research, teaching and so on.

PRIVATE HOSPITALS NOT PROVEN CHEAPER

We run a media release that some of the major dailies were either too frightened of or too preoccupied with Winston, Rod, Max, Koro and Rocky, to carry:

The recent study by BERL, of the relative efficiency of public and private hospitals sponsored by the Southern Cross Medical Society, reached conclusions that were not soundly supported by the statistical analysis by BERL of the available data.

This view was expressed by the President of the New Zealand Statistical Association, Dr P. Thomson, in presenting a criticism of the quality of the study, by the association's Survey Appraisals and Public Questions Committee.

One conclusion of the Southern Cross study not supported by the evidence, was that the cost advantages of private hospitals indicated by their analysis arose "primarily from managerial differences".

Although the Southern Cross study mentioned many critical problems with their analysis, it provided no estimates of their effects, and ignored them in the final analysis and conclusion. An alternative study by the Otago Hospital Board has shown that by taking into account a single factor, the use of out patient facilities, the savings in using private hospitals, estimated by the Southern Cross study at 40 percent, fell to 23 percent. Use of outpatient facilities is only one of the factors not evaluated in the Southern Cross study.

Other critical factors not adequately taken into account in the Southern Cross study included:

1. The effect of having more aged patients who, on the average, cost more and have a longer length of stay in public hospitals;
2. An indication of the severity of the illness, or complications of the patients. Many people with debilitating or complicating conditions (epileptics, diabetics), will not qualify for insurance, and hence may not afford private hospital stay;
3. The extent to which public hospital facilities are used for diagnostic or post operative care by private hospital patients;
4. The extent to which more complicated operations tend to be done in public hospitals because of better facilities in the event of complications;
5. The cost of providing teaching activities for nurses and doctors in public hospitals;
6. The cost of the operation of casualty services by public hospitals;
7. The cost of specialised diagnostic services, e.g. pathology and x-ray laboratories;
8. The cost of specialised treatment services such as intensive care units, special surgery units, radiotherapy, radiotherapy, etc.
9. The fact that drugs and chemicals provided in public

hospitals are included in their costs, while in private hospitals prescribed drugs are obtained free of charge from retail chemists by the social security vote.

The Survey Appraisals and Public Questions Committee found this lack of supporting data, which would allow proper appraisal of the cost effectiveness of public and private hospitals and would identify how length of stay and treatment costs were influenced by the factors listed above, to be a serious fault in the Southern Cross study. Without such data the committee found the conclusion of the report to be unacceptable by customary professional statistical standards.

The committee concluded that while the Southern Cross study may have stimulated public interest in the topic, it certainly does not have the statistically sound basis required of an authoritative review of the comparative cost of hospital activities in the public and private sector. It noted that an alternative assessment of the likely impact of several key issues not measured in the Southern Cross study had been made by Mr Pugh of the Otago Hospital Board.

SUBMISSION TO THE REVIEW OF HEALTH STATISTICS

Colin Cryer, a member of the association's executive committee, is also convenor of a study group/subcommittee examining charging for access to Public Data Bases. The following is a submission Colin prepared for the Review Committee on Health Statistics:

This submission is limited to the health statistics collected by the National Health Statistics Centre of the Department of Health. It encompasses the mortality, hospital discharge and cancer data systems.

The systems used by the National Health Statistics Centre (NHSC) to ascertain cases, coding and editing would appear to result in close to 100% case ascertainment, as well as valid data and data coding, as far as the data sources used will permit. They deserve praise for the rigorous manner in which they collect, code and check their data. However, their data is still limited by the quality of the original data sources.

1. SOURCES OF NHSC DATA

1.1 MORTALITY DATA

There are five principal source documents that may contribute to the data collected in the mortality data file. These are:

- Death Certificate
- Department of Justice's 'Guide Form'
- Coroner's Report
- Post Mortem Report
- Medical Certificate of Causes of Foetal and Neonatal Death

Wellington School of Medicine student projects which considered sources of New Zealand health data have indicated that Death Certificates are a source of problems due to basic problems such as illegible writing, inadequate documentation of cause of death and failure to complete the cause of death correctly, e.g. by providing the sequence of events in reverse order. In such cases, an attempt is made by NHSC staff to obtain further information from other sources. However, the degree to which this is successful is unclear. Death Certificates have also been found to be an inaccurate source of information in overseas studies (Cameron and McGoogan, *J Pathol* 133:273-83, 1981; Schottenfeld et al, *Bull, NY Acad. Med.* 58:778-794, 1982; *Lancet* Editorial 2(8236):22-3, 1981).

It is **recommended** that the limitations and problems of the Death Certificate be assessed and documented by NHSC together with the impact these problems have on the validity of the NHSC mortality data file. Methods of improving the quality of the information on the Death Certificate should be sought.

The Department of Justice 'Guide Form' is completed by the funeral director and is the major source of demographic data on the deceased. This includes data on the ethnic origin of the deceased. A medical student project to investigate ethnic classification in New Zealand (Department of Community Health, Wellington, 1980) identified some major problems with the 'Guide Form' as a source of data on ethnic origin. A proportion of these forms are not completed correctly. Due to the sensitivity of asking questions on ethnic origin, some funeral directors do not ask the relevant questions. Instead, some leave the questions blank, some guess the ethnic origin, some give the form to relatives of the deceased if the deceased 'looks Maori'. Obviously this is a major source of problems. Considering the politically sensitive nature of the data on ethnic origin, the extent of the problem of ethnic classification should be documented.

It is **recommended** that the validity of the data on ethnic origin on the mortality data file be investigated by the NHSC in conjunction with the Department of Statistics, that the level of the current inaccuracies be estimated and, if found to be inaccurate, means of improving the situation be sought.

1.2 HOSPITAL DISCHARGE DATA

The primary sources of data for this system are patient admission and discharge forms. The admission forms are typically completed by the admissions clerk whereas the discharge form is usually completed by a house surgeon and occasionally the consultant. These discharge data are the primary source for coding the patient diagnosis. 'Hearsay' evidence from hospital doctors suggests that the quality of some of the data from which diagnosis is coded is suspect, although we have available no documented evidence to support this.

Consequently, it is **recommended** that the quality and validity of the diagnoses obtained from hospital sources be investigated and the rates of misclassification for a range of patient types be estimated.

1.2 CANCER REGISTER

One deficiency with the Cancer Register data, recently highlighted by a study of stomach cancer (O'Connor, personal communication), is that some cases that are recorded by the cancer register as still alive have in fact died. On a small study this was estimated to be at a level of 3%. Although this is small (and the true value could be even smaller) it is still extremely important when using the register to estimate life expectancy for cancer patients since surviving patients have a large influence in such estimates. The Cancer Register is updated from the sources used by the Mortality Data section of the NHSC. There appear to be some problems with this updating procedure.

It is **recommended** that the extent to which the problem of inaccurate information on the survival of cancer patients exists be investigated by NHSC and, if necessary, that the system of updating the Cancer Register be reviewed.

1.4 GENERAL

From the above statements, it can be seen that although the National Health Statistics Centre generally succeed in producing data bases which reflect their primary data sources, those sources themselves are likely to result in inaccuracies in the NHSC data files. It

is the feeling of this Association that the emphasis of organisations collecting data should be on data quality, and that the introduction of data inaccuracies at any stage is a cause of major concern.

Consequently, it is **recommended** that the National Health Statistics Centre report periodically on their quality control procedures and results and that this quality control include both their own procedures of ascertainment of cases, data coding and data transcription as well as the quality of their primary sources (e.g. death certificates, hospital discharge sheets).

2. CODING PROBLEMS

This section is limited to consideration of coding systems for diagnosis of disease and injury and also the codes for the external 'cause of injury'. The coding systems are contained in the International Classification of Diseases manual published by the World Health Organisation.

Any coding system has limitations in so far as the process of coding almost always results in some loss of information. Consequently, the NHSC should be applauded for including on their mortality and hospital discharge files the provision for a thirty character descriptor to supplement the diagnoses and, in the case of injury, the 'cause of injury'. This provides much valuable information.

The limitations of some aspects of the ICD codes has been documented, particularly in the area of injury coding (Baker, *Accid Anal & Prev* 14:199-201, 1982; Langley, *Accid Anal & Prev* 14:195-197, 1982; Heidenstrom, *ACC Statistics* 1:4-7, 1982). Because of the accumulated experience of the NHSC and the users of their data, it is **recommended** that the NHSC should be encouraged to document these limitations and to make a submission to the WHO with recommendations for change and improvement to the ICD coding system.

3. CHARGING FOR INFORMATION

Within the membership of the New Zealand Statistical Association, there is some concern that the policy of Government Departments to charge for data services may have an adverse effect on the quality of the data collected and access to data by users. In view of the under-utilisation of many data sets, government departments should be encouraging and not discouraging use.

It is **recommended** that the National Health Statistics Centre formally evaluate and make known the effect of the charging policy on both its collection and on the nature and frequency of use of its data.

This Association believes that the data sets considered by this submission play an important role in providing information for many purposes including management and research. They currently give the facility to consider New Zealand's international standing in health terms as well as providing important information on secular trends in injury and disease. Because of the important role this data plays, we would encourage further improvement in the quality of this data and would argue most strongly against the removal of any of these data sets.

STATISTICIANS IN BUSINESS PROCESS MANAGEMENT

by Robert McEntyre, IBM Australia Ltd

In 1985, IBM launched a program to review its business processes, called the 'Quality Focus on Business Processes (QFBP)'. Key administrative processes are initially analysed and their performance

New Zealand Statistical Association (Inc.)

38th ANNUAL CONFERENCE

Announcement and Call for Papers

The 38th Annual Conference of the NZSA will be held at the University of Canterbury, Christchurch from Monday 24th August to Wednesday 26th August, 1987. The conference will dovetail with the Australasian meeting of the Econometrics Society which is to be held at the same location from 26th August to 28th August, 1987.

In addition to papers of general statistical interest, it is proposed that the conference include sessions on the Census, Statistical Education, Time Series and Medical Statistics.

Abstracts of all presented papers will be published in the NZSA newsletter. Speakers are encouraged to submit written versions of their papers to *The New Zealand Statistician*.

A Special General Meeting of the Association will be held during the conference and a public lecture is planned for the Tuesday night prior to the conference dinner. Hostel accommodation will be available: the current cost for bed and breakfast is \$23.50 per day.

Conference Fee:

	Full Attendance	Single Day Fee
NZSA Member	\$30	\$15
Non NZSA Member	\$40	\$20
Full-time Student	\$10	\$ 5

Offers to present papers and requests for further information should be sent:

Conference Chairman
NZ Statistical Association
P.O. Box 1731
Wellington

level determined. Continuous monitoring is established using statistical methods, with the aim to streamline and improve each process.

Both IBM Australia and IBM New Zealand have entered into this program with gusto. Some of the processes that have been analysed include ordering, billing, product distribution and accounting. Each of these processes has been dissected into manageable 'sub-processes', with district boundaries established. Each sub-process has then been analysed using sequential flow charting techniques. Major internal 'customers and suppliers' are always identified.

What takes a statistician to IBM? What opportunities exist for our profession in large corporations?

Traditionally, Econometricians have found a place in both business and government. Industrial statisticians can be located in industry. There is, however, a growing opportunity for statisticians to become involved in Business Process Management where statistical tools can be applied. We only need to view the names of W. Edwards Deming, Brian Joiner and Ivor Francis to appreciate this.

I was trained as a Biometrician in the Faculty of Agriculture at the University of Sydney. The fundamentals of Experimental Design and Analysis have provided a sound base for the application of statistical methods to many environments.

Several years at SIROMATH (Sydney office) as a Biometrician offered a wide range of consulting to industry. Companies such as SIROMATH are ideal for statisticians to gain a broad experience in the marketing of a professional service, consulting and adult education. Entering the business world is an opportunity for which we are generally neither exposed nor trained.

SIROMATH projects introduced me to the concepts of Quality Control. Self education was needed. A large project with the Department of Primary Industry (meat exporting) gave me the impetus to read widely on the subject of statistical quality control, and also the philosophies of Deming, Juran and Crosby.

I joined IBM's Quality Department (Management Services) in December, 1985. My role has essentially been twofold: to provide a consulting service to those involved in the QFBP program and to develop and present statistical training courses suitable to the business environment. The consulting has meant meeting with a cross section of the company, including Directors, senior managers and non-managers, and providing a set of simple tools for effective process monitoring.

For the training program, I have developed a standard two day course entitled 'Statistical Methods for Business Management'. It contains an introduction to simple statistical topics such as 'why collect data?', descriptive statistics, graphical tools for data presentation and statistical process control. Participants engage in workshops, using both pocket calculators and PC's.

IBM New Zealand's Manager of Quality, John Saunders, invited me (November 1986) to deliver the standard course twice in one week to IBM personnel in Wellington. Four days of teaching were demanding, yet rewarding. Viewing another arm of the IBM corporation was valuable.

Bill Armstrong (ex NZ Dairy Board and now DMS, CSIRO in Melbourne) heard I was planning a visit to Wellington and suggested advance contact with Peter Thomson. This proved to be a positive suggestion. Peter was indeed an excellent host.

A seminar was organised in conjunction with several professional organisations in NZ: the Statistical Association, NZOQA, the OR Society, AMD of DSIR and the Institute of Statistics at the Victoria University, Wellington. The seminar was entitled 'Statistical Monitoring of Non-Manufacturing Processes' and outlined the work undertaken by IBM Australia. It was a great pleasure for me to talk to a New Zealand audience. To both Peter and Bill I am extremely grateful for their enthusiasm.

So what does 1987 hold for an IBM statistician? Consulting statisticians must identify areas for application of their skills. My consulting has diversified into the areas of survey design and analysis, sample size determination, and statistical process control in manufacturing. Training courses will continue, with the refinement of existing courses and the development of new courses.

I look forward to meeting again with those whom I met in Wellington in November 1986. I will be in Auckland during February 1987.

1986 REGIONAL SCIENCE FAIRS— STATISTICS PRIZES by David Harte

During 1986 the Association wrote to each of the seventeen NZ Regional Science Fair Organisers offering to provide a statistics prize of \$40, together with

a suitably inscribed certificate. The prize is jointly sponsored by the NZ Statistical Association, the Department of Statistics, the Applied Mathematics Division of the DSIR, and the Ministry of Agriculture and Fisheries. The basic objective of the statistics prizes is to improve and enhance the level of statistical awareness within the secondary school system.

Of the seventeen fairs: fourteen accepted the offer, one of these was not judged due to no notice of a change in time, and the three others failed to respond.

The names of the various members of the Association who acted as judges and the results are listed. The Association and the organisers wish to take this opportunity to record their appreciation of the excellent job done by the judges. The task of judging is difficult as the major strength of one exhibit may be the main failure of another, for example, graphical displays and replication. Many seemed to have major failings, thus the difficulty in weighing up the relative merits.

It is difficult to judge whether the standard of the exhibits has improved over the years for which prizes have been awarded. There would appear to be considerable variability between fairs and between schools at the same fair. It would appear that certain schools (rather than individuals) provide the impetus to get pupils to enter. Some exhibits appeared to be the results of class projects, etc. Nevertheless the message is still not getting across that sensible collection and analysis of data is an essential part of science. The most common failings still remain the lack of replication and the lack of appreciation of how random variation can affect the conclusions obtained.

The majority of entries were disappointing from a statistical point of view. Nevertheless, many had a potential statistical content. The number of senior entries is generally low compared to other age groups—and not of a much higher standard. The new 7th form syllabus may help this though.

1986 SCIENCE FAIR RESULTS

● Fair: Mid-North

Judge: John Maindonald, DSIR
Auckland
No Award

● Fair: Auckland

Judge: John Maindonald, DSIR
Auckland

(1) Ergonomics, Suzanne Thomson and Sarah Vallings, Macleans College

(2) Amazing, Katie Potter and Libby Boak, Westlake Girls High School

● Fair: Waikato

Judge: Barbara Dow
John Waller
MAF, Ruakura
No Award

● Fair: Bay of Plenty

Judge: Hanno Fairburn
Forest Research Institute
Rotorua
No Award

● Fair: Hawkes Bay

Judge: Professor Mumford
Massey University
Palmerston North

(1) ESP—Is it for Real?, Joanne Beggs and Frances Bennett, Taradale High School

● **Fair: Wanganui**

Judge: Greg Arnold
Massey University
Palmerston North
No Award

● **Fair: Manawatu**

Judge: Greg Arnold
Massey University
Palmerston North
(1) "Huffin" Stuff, Katharine O'Driscoll,
Monrad Intermediate
(2) Quest for the Perfect Egg, Sarah Lai,
Palmerston North Girls High School

● **Fair: Wairarapa**

Judge: David Harte,
MAF, Wellington
Solar Heating: Andrew Marsh, Struan
Robertson, Kawin Naulkhair, Rathkeale College

● **Fair: Wellington**

Judge: Jean Thompson
David Harte
Wellington
The Local "Home Range", Grant Beban,
Naenae College

● **Fair: Nelson**

Judge: Peter Alspach
DSIR, Motueka
(1) Mudcrabs: the Distribution of Helice Crassa
on the Waimea Estuary, Gina Wood,
Waimea College
(2) Test Your Wits against Your Mind, Karen
Ameye, Marny Reakes, Susan Mitchell,
Nelson Girls College

● **Fair: Marlborough**

Judge: Chris Dyson
MAF, Lincoln
Results not yet received

● **Fair: Canterbury/Westland**

Judge: Chris Dyson
MAF, Lincoln
Which Sail is the Best?, Andrew Bryson, Shirley
Boys High School

● **Fair: South Canterbury**

Judge: Andrew Wallace
DSIR, Lincoln
(1) The Statistical Probability of Precognition,
Grant Kirton, Michael Miller and Philip
Lester, Timaru Boys High School
(2) The Inside Story, Joanne Hooke and
Raewyn Geddis, Mountainview High School
(3) How Fast Can Bean Sprouts Grow?, Simon
Kelly, Ashburton Intermediate School

● **Fair: Otago**

Judge: John Rayner
Otago University
Dunedin
(1) The Comparison of Golf Balls, Brendon
Clark, Greg Brooks and Richard Ellwood,
Kaikorai Valley High School
(2) Experiments on Tenderness of Mutton,
Michael Fennessy, St Paul's High School

NEWS FROM OTAGO

Malcolm J. Faddy has accepted the position of Senior Lecturer in Statistics in the Department of Mathematics and Statistics at the University of Otago. Malcolm has been a Lecturer at the University of

Birmingham since 1970. His research interests are in compartmental models and medical statistics. He should be arriving in September.

Lyman McDonald from the University of Wyoming is expected to visit from mid-June to mid-August. One of Lyman's main interests is in estimation of the parameters of wild animal populations. Bryan Manly is hoping to be able to organize a seminar on this topic aimed at biologists and statisticians in the week beginning on the 10th of August. If you would like to take part, please let Bryan know. Also feel free to tell any biologist colleagues about the seminar.

NEWS FROM ISOR/VUW

Megan Clark is off on leave from mid-year, while Shirley Pledger and Tapas Sarkar have recently returned to us. Ross Renner is also shortly due "back" although not really trusting us sufficiently, he didn't go away properly, and spent his leave in Wellington.

Tony Vignaux on the other hand, was quite resigned to letting us have full reign, and has left for several months, starting in Berkeley.

Stephen Haslett is the proud possessor of a PhD and a brand new son; besides which he is now also a full member of staff, to everybody's satisfaction.

We are all looking forward to the arrival of Bernhard Flury around the end of March, finally filling the hole (virtually bottomless) left by Ken Russell when he returned to Oz. Current visitors are Drs Tohru and Valerie Ozaki, both time series analysts. They will be with us for 2 months.

The ISOR 3B2 is starting to get a thorough workout as we extend our experience with "S". The results are generally pretty favourable. An HP plotter has added a totally new dimension to Peter Thomson's play therapy. Peter is also celebrating his recent promotion to Reader.

NEWS FROM DSIR/AMD

DSIR corporate policy now requires us to mention DSIR before AMD so "AMD/DSIR" is now taboo, kiddies.

Dr Sirmathie Wewala has joined DSIR Applied Mathematics Division's Palmerston North substation. Siri has a BSc from the University of Sri Lanka and a PhD from Massey University where she was formerly a Junior Lecturer. Siri's research interests lie in variance components estimation and in particular accounting for maternal effects in the prediction of genetic parameters.

There have been comings and goings at the Mt Albert substation, Nye John has returned to Southampton, Tony Aldridge has returned from Joiner Associates, and Peter Thakurdas is to leave for Medical School.

NEWS FROM MAF BIOMETRICS SECTION

John Jowett has resigned to take up secondary school teaching and will initially be spending a year at Teachers' College in Lower Hutt. He plans to teach Mathematics and possibly Music. Max Wigbout joined the section in January coming from the Department of Statistics via the Ministry of Energy. Robyn Green has also left to study applied statistics at Monash University.

NEWS FROM KIRIBATI

Nigel Derby has taken two years leave from his job as statistician with the NZ Ministry of Transport to work in Kiribati's Statistics Office. Nigel, who will be working in Kiribati under the aegis of the Volunteer Service Abroad scheme, was recently interviewed in the *Karori News* and said, "The country had a census 18 months ago and I'll be producing statistics as required and also training the local people on the computers so they can take over the running of the statistics office."

EDUCATION SUBCOMMITTEE NEWS

The members of the Education Subcommittee of the NZ Statistical Association are;

Sharleen Forbes, Wallaceville Animal Research Station, MAF (Convener)
 Peter Thomson, Inst. of Statistics and OR, VUW
 Jean Thompson, Applied Maths Division, DSIR
 Brian Dawkins, Inst. of Statistics and OR, VUW
 Mike Camden, Wellington Polytechnic
 Elizabeth Robinson, Queen Margaret College, Wellington

Andy Begg, Dept. of Education, Wellington

So far the following members have agreed to be local co-ordinators liaising with local Mathematics Associations and secondary schools;

Elizabeth Wells, Christchurch
 Peter Johnstone, Otago
 Brian Dawkins, Wellington
 John Mairdonald, Auckland

The subcommittee has met several times and has decided to develop the following resources this year to assist seventh form teachers;

- (i) a booklet of appropriate references
- (ii) a library of videos and booklets covering specific statistical techniques
- (iii) a list of practising statisticians who are willing to be consulted and/or are available to speak to schools in their region
- (iv) a list of 'successful' project topics.

All secondary schools were circulated a newsletter containing the above information together with publicity for 'Statistics at Work'. Response has been good both with regard to project topics and to sales of 'Statistics at Work'.

Local co-ordinators currently have lists of members who are willing to assist in their region and members are asked to notify Peter Thomson of any texts that may be appropriate for this level. The subcommittee is currently looking at the availability of databases and the feasibility of undertaking some short publications.

On Monday 23rd February a Forum on The Internally Assessed Practical Component of the seventh form Mathematics with Statistics course was held. Teachers in the Wellington region were given an in-service day to allow them to attend this.

Sharleen D. Forbes

BOOKS AND SOURCES OF DATA FOR 7TH FORM

The NZSA Education Committee seeks your suggestions for clear, well-written Statistics books and sources of data that might prove useful for staff or students currently grappling with the 7th Form Mathematics with Statistics course. A suitable short list based on these suggestions could be used by schools to build up library and teacher resources in the subject. Suggestions for books should be accompanied by a brief supporting statement together with an indication of potential users (staff or students). Please send suggestions for books to:

Peter Thomson
 Institute of Statistics and Operations Research
 Victoria University of Wellington
 Private Bag
 Wellington

and for sources of data to:

Mike Camden
 School of Mathematics and Science
 Wellington Polytechnic
 Private Bag
 Wellington

PRESIDENT'S COLUMN

The Association's committees have been particularly busy over the Christmas period with a number of issues being resolved and others initiated.

On the publications front we now have an Editor Elect for *The New Zealand Statistician*. Jocelyn Dale has kindly offered to be Editor next year after a year learning the ropes with the current Editor John Reynolds. We almost have an Editor Elect for the *Newsletter* in our sights, but more of that in the next issue! A

Publications Committee has finally been established. John Mairdonald is the Convener and John Rayner is currently its sole member. The Committee has the power to co-opt further members to cope with any additional load. Currently the Committee is handling a booklet on understanding surveys which has been compiled and edited by Vic Duoba and John Mairdonald. This booklet is based on one by the American Statistical Association (without copyright) with American examples replaced by New Zealand examples and other such extras. All things being equal, it is hoped that this booklet will be out in the next few months.

While on publication matters, a breakdown of costs, prepared by the editor, of *The New Zealand Statistician* and the *newsletter* is somewhat alarming. According to the calculations, the *Statisticians* are costing us around \$7 each with *newsletters* around \$2 each. With 4 *newsletters* and 2 *Statisticians* per annum, this adds up to a total sum of \$22 which in fact is our total sub! Typesetting costs are over 50 percent of the cost of producing the *Statistician*. These costs shoot up whenever any mathematical typesetting is required, even of a relatively modest nature (e.g. the Rayner article or the Ryan and Penny article in the latest



MOVING?

Members are requested to notify the Treasurer, NZSA, P.O. Box 1731, Wellington of any change of address in order that newsletters and journals (and subscription reminders) can continue to be despatched to them.

Statistician). Thus we need to investigate, as a matter of urgency, ways of reducing these costs. Desktop publishing is obviously an alternative which the editor and I are currently following up. However any suggestions from those of you with experience in this area would be gratefully appreciated.

The Education Committee has been particularly busy over the past few months as Sharleen has indicated in her report elsewhere in this issue. Subcommittees are being set up, in-service days for teachers organized, and links with the Department of Education are being established. Orders for the Case Book are currently flowing in at a rapid rate thanks to Sharleen's initiative in putting an advertisement around the schools in conjunction with the New Zealand Mathematics Society.

ICOTS is also progressing and we now have two committees. The ISI Local Organising Committee (LOC) is principally concerned with fundraising, both nationally and internationally, and in ensuring good publicity and timely organisation for ICOTS III. The local Otago committee is called the Local Administrative Group (LAG). (Its main functions LAG those of LOC as might be expected). The LOC Committee has a broadly based membership of a national character, whereas the LAG Committee has a membership of local Otago worthies. Both committees are headed by the indefatigable Professor Bryan Manly of Otago University.

Returning to other matters, the BERL report was released just before Christmas, but you can read about that elsewhere in this issue. We are also very grateful to Colin Cryer who prepared the submission to the review Committee on Health Statistics on behalf of the Association. This submission is printed elsewhere in the newsletter.

The preparation for the Annual Conference is proceeding apace and it looks like we will be having a Special General Meeting of the Association at the Conference in August. To satisfy the terms of the NZSA constitution we will need to hold an AGM in Wellington midway through this year. At the AGM, changes to the Constitution will need to be considered, not least of which should be the provision to allow an AGM to be held at times other than the first three months of the financial year.

Well, I have little else to report except that I heard on the grapevine that a certain Professor of Statistics in the lower half of the South Island will have appeared on television by the time you receive this newsletter. I trust you were all watching so that we can push our ratings up!

Peter J. Thomson

A BOOK REVIEW EDITOR'S FEAR AND LOATHING

Murray Jorgensen sent us a photocopy of the book review section of *Advances in Mathematics*, 1986, 60, pp 123-124. A somewhat overwhelmed book review editor attempted to do justice to 17 statistics titles, some of which must have been sitting on his desk for over five years (e.g. Barndorff-Nielsen, *Information and Exponential Families*, Wiley, 1978 and Patel, Kapadia and Owen, *Handbook of Statistical Distributions*, Marcel Dekker, 1976). The editor described the 4th edition of Kendall and Stuart quite correctly as "an ageing but reliable British Rolls Royce" and Barra's

terrific book, *Mathematical Basis of Statistics*, rather unfairly as "particularly apt for mathematicians who want a bird's eye view of the wonderful world of statistical reasoning, but only from an abstract distance."

The interesting, somewhat jaundiced, first half of the review is reprinted in its entirety below:

"When a publishing company is about to go out of business after having published too many advanced (and hence unsaleable) mathematics books, it may well be advised to regain some of its lost cash flow by publishing books in statistics. From a marketing point of view, statistics books can be classed with cookbooks and mystery books: they have an assured market, their intellectual requirements are modest, and the texts are often carbon copies of each other. From a buyer's point of view, the decision to spend the \$40 a poor fellow is allowed every month for sciences on a statistics book appears as a wise one, at least on the surface. The book is likely to be easy to read, the material seems to have applications, and it will be easy for the reader to publish research papers in the subject. Thus, we may expect that as the fortunes of pure mathematics decline the sorts of statistics will rise. Anyone who wants to make a fast buck out of an undergraduate education in mathematics (that is, 90% of all our majors) now has the choice between statistics and computer science. It looked for a while like computer science was about to wipe out statistics altogether, but the tables are turning again. Students are discovering that most of those who now call themselves computer scientists may probably wind up their careers as glorified typists, with salaries that (in view of the huge supply of such personnel) may not be much better than those of today's secretaries. Thus, we may predict that graduate schools in statistics will enjoy a perverse Renaissance."

DEADLINE FOR NEXT ISSUE

The deadline for submitted material for the April, 1987 issue of this newsletter is April 7.

Please send all notices of seminars, news items, letters-to-the-editor, etc. to . . .

John Reynolds,
Newsletter Editor,
DSIR/AMD,
P.O. Box 1335,
Wellington.

The deadline for "News and Announcements" for the May, 1987 issue of *The New Zealand Statistician* is May 7.

OVERSEAS CONFERENCES

STATCOMP 87

This conference is organised by the Statistical Computing Section of the Statistical Society of Australia and is to be held at La Trobe University, Bundoora, Victoria, Australia on May 14-15, 1987. As well as invited and contributed paper sessions there will be an exhibition of statistical and text-processing software for the IBM PC and the Macintosh. A text-processing symposium is planned. For further information write to:

The Conference Secretary
STATCOMP 87
Department of Statistics
La Trobe University
Bundoora, Victoria 3083
Australia

American Statistical Association/Biometric Society

The 1987 joint meeting is to be held August 17-20, in San Francisco, California. For further information, write to ASA, 806 15th Street, N.W., Washington DC, 20005, USA.

46th Biennial Session of the International Statistical Institute

To be held in Tokyo, Japan from September 8 to 16, 1987. Information from ISI Permanent Office, 428 Prinses Beatrixlaan, P.O. Box 950, 2270 AZ Voorburg, Netherlands.

Fifth International Symposium on Data Analysis and Informatics

To be held in Versailles, France from September 29 to October 2, 1987. Sponsors include ISI and RSS and the Organising Committee includes: J. M. Chambers (Bell Labs, USA), J. C. Gower (Rothamsted, UK) and R. R. Sokal (SUNY, USA). For a copy of the First Announcement write to:

INRIA
Fifth Int. Symp. Data Analysis and Informatics
Service des Relations Exterieures
Domaine de Voluceau-ROCQUECOURT-
B.P.105
78153 LE CHESNAY Cedex (FRANCE)

Ninth Australian Statistical Conference

To be held, in conjunction with the National Mathematical Science Congress, in Canberra, May 1988. For further information contact Professor Chris Heyde, Department of Statistics, Institute of Advanced Studies, GPO Box 4, Canberra 2601.

DSIR Applied Mathematics Division

Vacancies for Statisticians

There are vacancies coming up for statisticians at the Auckland and Palmerston North DSIR campuses.

The work at the Auckland substation of Applied Mathematics Division consists of consulting with industrial clients, particularly in the area of Quality Improvement, and providing DSIR scientists with statistical advice.

The Palmerston North position consists of advising DSIR scientists on the design and analysis of experiments.

Both positions involve the use of standard statistical techniques and the development and application of new or modified techniques. In addition, there is time for statistical research not directly related to any consulting project.

QUALIFICATIONS

- Good honours degree in Mathematics or Statistics, or PhD
- Ability to work with people and a practical orientation
- Knowledge of computing would be an advantage

SALARY

- New first class honours degree: around \$22,700
- Honours degree plus PhD: around \$26,400
- Adjustments are made for relevant experience

Anyone interested should contact the Director as soon as possible. Write or telephone:

The Director
Dr R B Davies
DSIR Applied Mathematics Division
P O Box 1335
Wellington
Telephone: (04) 727-855